a filter, responsive to the configuration data, to selectively forward to the at least one storage device requests for access to the plurality of volumes received from the plurality of devices over the network, wherein each request identifies at least one of the plurality of devices that is represented to the storage system as having issued the request, and wherein the filter is adapted to verify that the at least one of the plurality of devices identified in at least one of the requests as having issued the at least one of the requests is the device that issued the at least one of the requests.

REMARKS

Claims 1-32 were previously pending in this application. By this amendment, Applicant is canceling claim 28 without prejudice or disclaimer. Claims 1, 15, and 21 have been amended. As a result, claims 1-27 and 29-32 are pending for examination with claims 1, 15, and 21 being independent claims. No new matter has been added.

Ericson – U.S. Patent No. 6,061,753

On January 15, 2003, Applicant petitioned for withdrawal of the present application from issue under 37 C.F.R. §313(c)(2) to permit consideration of an Information Disclosure Statement citing additional prior art. In particular, Applicant submitted U.S. Patent No. 6,061,753 by Ericson (hereinafter "Ericson") and a corresponding EPO publication for consideration. Applicant has amended the independent claims to distinguish over Ericson, and submits the following remarks.

Ericson is directed to a system for controlling access to a selected portion target device (Abstract). A message having an initiator identifier is directed from an initiator device to the target device to request access to the selected portion of the target device referred to as a logical unit (Abstract, Col. 3, lines 58-62). Upon receipt of the request, it is determined if the initiator identifier is in a permitted set of identifiers associated with the selected portion of the target device (Abstract). If so, then access to the portion of the target device is permitted (Abstract). In particular, a target controller grants access to logical units based on an

association of initiator identifiers to the logical units (Col. 4, lines 40-47). Only those initiator identifiers associated with a particular target logical unit can access the particular target logical unit (Col. 4, lines 47-49).

Ericson is performed in a SCSI environment where initiators are trusted, and therefore, authentication is not required. More particularly, an initiator indicated as having issued a request is trusted as being the actual source of the request. Therefore, Ericson relies only on the initiator identifier to determine whether access to a logical unit is permitted, and takes no action to authenticate the source of request (Col. 6, lines 23-26).

The Claims Distinguish Ericson

Claim 1

Claim 1 had been amended to recite an act of "verifying that the represented source of the request is the one of the at least two devices that issued the request." Ericson does not perform an act of verifying as recited. Ericson assumes that devices that issue requests are trusted and services requests received from initiators based solely on the initiator identifier in each request. According to one aspect of the present invention as discussed in the Applicant's specification on Page 4, lines 8-20, it is appreciated that devices may misrepresent their identities to gain access to a particular resource. By verifying that the device indicated by the request is the device that issued the request, devices cannot be falsely represented. In view of the foregoing, it is respectfully asserted that claim 1 patentably distinguishes over Ericson.

Claim 15

Independent claim 15 has been amended to recite a data structure to manage accesses to volumes of a storage system, the data structure comprising a plurality of records, at least one of which includes "authentication information that can be used by the storage system to determine whether the one of the plurality of devices that issued the request is the corresponding one of the plurality of devices." As discussed above with respect to claim 1,

Ericson does not verify that a device represented as having issued a request is the device that issued the request. Ericson teaches a data structure that maps a permitted set of logical units that can be accessed by a particular initiator, and determines access based only on this mapping. Ericson does not disclose a data structure having authentication information to determine whether a device issued a request. In view of the foregoing, it is respectfully asserted that claim 15 patentably distinguishes over Ericson.

Claim 21

Independent claim 21 has been amended to recite that "each request identifies at least one of the plurality of devices that is represented to the storage system as having issued the request, and wherein the filter is adapted to verify that the at least one of the plurality of devices identified in at least one of the requests as having issued the at least one of the requests is the device that issued the at least one of the requests." As discussed above with respect to claim 1, Ericson does not verify that a device identified by a request as having issued the request is the device that issued the request. Therefore, it is respectfully asserted that claim 21 patentably distinguishes over Ericson.

An early and favorable action is respectfully requested.

Respectfully submitted,
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MARKED-UP CLAIMS

Claims 1, 15, and 21 have been amended as follows:

1. (Amended) A data management method for managing access to a plurality of volumes of a storage system by at least two devices coupled to the storage system through a network, the method comprising steps of:

receiving over the network at the storage system a request from one of the at least two devices for access to at least one of the plurality of volumes of the storage system, the request identifying the at least one of the plurality of volumes in the storage system and a represented source of the request; and

selectively servicing, at the storage system, the request responsive to configuration data indicating that the one of the at least two devices is authorized to access the at least one of the plurality of volumes, wherein the step of selectively servicing comprises verifying that the represented source of the request is the one of the at least two devices that issued the request.

15. (Amended) A computer readable medium comprising:

a first data structure to manage accesses by a plurality of devices to volumes of data at a storage system over a communication network, the storage system managing access responsive to [a request identifying] requests that each identifies one of the plurality of volumes of the storage system to be accessed and one of the plurality of devices that is represented as having issued the request, the first data structure comprising a plurality of records corresponding to the plurality of devices, [each of] the plurality of records comprising at least one record corresponding to one of the plurality of devices and including configuration information having at least one identifier that identifies which of the volumes of the storage system the one of the plurality of devices is authorized to access, and authentication information that can be used by the storage system to determine whether the one of the plurality of devices that issued the request is the corresponding one of the plurality of devices.

21. (Amended) A storage system comprising:

at least one storage device apportioned into a plurality of volumes;

a configuration table to store configuration data identifying which of a plurality of devices coupled to the storage system via a network are authorized to access each of the plurality of volumes; and

a filter, responsive to the configuration data, to selectively forward to the at least one storage device requests for access to the plurality of volumes received from the plurality of devices over the network, wherein each request identifies at least one of the plurality of devices that is represented to the storage system as having issued the request, and wherein the filter is adapted to verify that the at least one of the plurality of devices identified in at least one of the requests as having issued the at least one of the requests is the device that issued the at least one of the requests.